ABSTRACT

A COHERENT RECEIVER

5

.A coherent receiver receives a set of signals which are spaced in phase, or phase and polarization, and a reference signal. The receiver processes the set of signals to determine which of the set of signals has a predetermined association (e.g. closest in phase) with the reference signal and selects that signal as an optimum output. The

10 receiver has the effect of de-rotating the phase slip between the input signal and reference signal in discrete steps. The selecting occurs on a repeated basis to select an optimum output. The set of signals can be processed in the analogue or digital domains, by such techniques as: comparing the amplitude of each of the set of signals with a threshold, comparing signals with each other or cross-correlation. The

15 processing can be implemented, if desired, without the need for complicated components, which would either be expensive or become unreliable at the extreme high operating frequencies used for optical communication.